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10/576,478	04/20/2006	Hideki Ito	13241/15	5422

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EXAMINER	
FROST, ANTHONY J	
ART UNIT	PAPER NUMBER
1798	

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/576,478	ITO ET AL.	
	Examiner	Art Unit	
	ANTHONY J. FROST	1798	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *22 September 2010*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ An election was made by the applicant in response to a restriction requirement set forth during the interview on _____; the restriction requirement and election have been incorporated into this action.

4)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

5)☒ Claim(s) *1-3 and 19-21* is/are pending in the application.

5a) Of the above claim(s) _____ is/are withdrawn from consideration.

6)☐ Claim(s) _____ is/are allowed.

7)☒ Claim(s) *1-3 and 19-21* is/are rejected.

8)☐ Claim(s) _____ is/are objected to.

9)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

10)☐ The specification is objected to by the Examiner.

11)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

12)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

13)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *4/13/10, 10/20/10, 11/29/10, 2/17/11*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Response to Amendment

1. Claims 1-3 stand as previously presented. Claims 4-18 are canceled. Claims 19-21 are new.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

3. The factual inquiries set forth in *Graham* v. *John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

4. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was

not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

5. Claim 1 is rejected under 35 U.S.C. 103(a) as being unpatentable over Tahoda et al. (Japanese Laid Open Patent Application No JP 2000-167928 A), hereinafter "Tahoda," in view of Ueyama et al. (US Patent Application Publication No 2002/0061412), hereinafter "Ueyama," and further in view of Sakamoto (US Patent No 5,061,571), hereinafter "Sakamoto."

6. Regarding claim 1, Tahoda teaches a heat-shrinkable polyester film made by a process comprising at least two drawing stages in the maximum shrinkage direction (see, e.g., Working Example 1, teaching drawing in two stages, one extension having a drawing ratio of 4.47 and another having 1.1 [0061] – [0062]), wherein the first stage of drawing is performed at a first temperature that is from 5°C below Tg to 15°C above Tg ([0035] – [0036]), and at a first drawing ratio of between 4.4 and 6.0 (see [0031] and Working Example 1, [0062]).

Tahoda additionally teaches that the second stage of drawing is performed at a second temperature that is identical to or about 1 to about 5°C lower than the first temperature and at a second drawing ratio of between 1.1 and 1.5 (See, e.g., working example 1, having the same drawing temperature of 73°C for both drawing steps [0061] – [0062]).

Tahoda fails to teach that the film is heat set at according to the process as specified in the presently examined claim. However, in the same field of endeavor of

heat-shrinkable films (see, *e.g*, [0003]), Ueyama teaches multi-stage stretching of a heat shrinking polyester film ([0010]). Ueyama teaches a heat-setting step performed after the first stage of drawing in a state of tension in the drawing direction at a tensioning ratio of not less than 1% and not more than 6% with respect to the film after the first stage of drawing (relaxation ratio of 5-10%, [0061]), and at a temperature that is the same as or about 1 to 5 ℃ lower than the temperature of the first stage of drawing (heat setting temperature of 60-80°C [0010], stretching temperature of 60-80°C [0063], therefore the heat setting temperature is to be roughly the same temperature as the stretching step) for a time reading on the range of not less than 0.5 seconds and not more than 5 seconds (from 1 to 60 seconds, col. 6 lines 15-16). It should additionally be noted that the claim language does not require that the second stage of drawing be performed after the heat-setting stage. One of ordinary skill in the art at the time of the invention would have been motivated to heat set the polyester film of Tahoda according to the steps described for the benefit of reducing the film's heat-shrinkability after biaxial stretching ([0010]).

Because these process steps for the preparation of a polyester film are substantially the same as the ones presently claimed, and because the physical properties disclosed by Tahoda are substantially similar to the ones presently claimed (see Tahoda, Claim 1, [0007], and see shrinkage percentage difference at [0021]), absent a showing to the contrary modified Tahoda will be considered to teach the elements of the presently examined claim.

Finally, modified Tahoda does not disclose that the heat-shrinkable polyester film satisfies the following requirements (D) to (E): (D) a three-dimensional surface roughness SΔa is 0.008 to 0.04; (E) a three-dimensional surface roughness SRz is 0.6 to 1.5 micrometers. Sakamoto discloses a polyester film meeting the instant surface roughness and lubricant limitations. (See Table 1, C3 and C4, Example 1, the lubricant is calcium carbonate present at 0.3% (calcium carbonate being a lubricant as set forth in the instant specification on page 18). The resulting surface roughness, Ra, of the film is 0.0012 and the Rz can be calculated using the Ra to Rz ration to be 0.074 (i.e. 0.012*6.2). The film has surface uniformity, excellent running property and wear resistance (See Abstract).) The inventions of both modified Tahoda and Sakamoto are drawn to the field of polyester films and therefore it would have been obvious to one having ordinary skill in the art at the time of the invention to have modified the surface roughness of the film of modified Tahoda by including the inorganic particles as taught by Sakamoto for the purposes of imparting improved running property.

7. Claim 2 is rejected under 35 U.S.C. 103(a) as being unpatentable over Tahoda in view of Ueyama and further in view of Sakamoto, and further in view of Boseki (JP-2002-331581, a machine translation for which has been previously provided), hereinafter “Boseki.”

8. Regarding claim 2, Tahoda teaches a heat-shrinkable polyester film made by a process comprising at least two drawing stages in the maximum shrinkage direction (see, e.g., Working Example 1, teaching drawing in two stages, one extension having a

drawing ratio of 4.47 and another having 1.1 [0061] – [0062]), wherein the first stage of drawing is performed at a first temperature that is from 5℃ below Tg to 15℃ above Tg ([0035] – [0036]), and at a first drawing ratio of between 4.4 and 6.0 (see [0031] and Working Example 1, [0062]).

Tahoda additionally teaches that the second stage of drawing is performed at a second temperature that is identical to or about 1 to about 5℃ lower than the first temperature and at a second drawing ratio of between 1.1 and 1.5 (See, e.g., working example 1, having the same drawing temperature of 73°C for both drawing steps [0061] – [0062]).

Tahoda fails to teach that the film is heat set at according to the process as specified in the presently examined claim. However, in the same field of endeavor of heat-shrinkable films (see, *e.g*, [0003]), Ueyama teaches multi-stage stretching of a heat shrinking polyester film ([0010]). Ueyama teaches a heat-setting step performed after the first stage of drawing in a state of tension in the drawing direction at a tensioning ratio of not less than 1% and not more than 6% with respect to the film after the first stage of drawing (relaxation ratio of 5-10%, [0061]), and at a temperature that is the same as or about 1 to 5 ℃ lower than the temperature of the first stage of drawing (heat setting temperature of 60-80°C [0010], stretching temperature of 60-80°C [0063], therefore the heat setting temperature is to be roughly the same temperature as the stretching step) for a time reading on the range of not less than 0.5 seconds and not more than 5 seconds (from 1 to 60 seconds, col. 6 lines 15-16). It should additionally be noted that the claim language does not require that the second stage of drawing be

performed after the heat-setting stage. One of ordinary skill in the art at the time of the invention would have been motivated to heat set the polyester film of Tahoda according to the steps described for the benefit of reducing the film's heat-shrinkability after biaxial stretching ([0010]).

Because these process steps for the preparation of a polyester film are substantially the same as the ones presently claimed, and because the physical properties disclosed by Tahoda are substantially similar to the ones presently claimed (see Tahoda, Claim 1, [0007], and see shrinkage percentage difference at [0021]), absent a showing to the contrary modified Tahoda will be considered to teach the elements of the presently examined claim.

Modified Tahoda does not disclose that the heat-shrinkable polyester film satisfies the following requirements (F) to (G): (F) a light transmission at a wavelength of 380 nm is not more than 20%, and a light transmission at a wavelength of 400 nm is not more than 60%; (G) a Haze value is not more than 15%. Boseki discloses a polyester film wherein: (F) a light transmission at a wavelength of 380 nm is not more than 20%, and a light transmission at a wavelength of 400 nm is not more than 60%; (G) a Haze value is not more than 15%. (See Claim 1, hayes is assumed to be a mistranslation of haze. The disclosed numerical ranges exactly match the instant claimed ranges. The invention relates to reducing the UV light penetration of heat shrinkable polyester films for use as labels.) The inventions of both modified Tahoda and Boseki are drawn to the field of polyester films and therefore it would have been obvious to one having ordinary skill in the art at the time of the invention to have

modified the light transmittance and haze of the film of modified Tahoda by absorbing light in the visible light range as taught by Masuda for the purpose of reducing the UV light penetration of heat shrinkable polyester films.

Modified Tahoda does not disclose the instant lubricant. Sakamoto discloses a polyester film meeting the instant surface roughness and lubricant limitations. (See Table 1, C3 and C4, Example 1, the lubricant is calcium carbonate present at 0.3% (calcium carbonate being a lubricant as set forth in the instant specification on page 18). The resulting surface roughness, Ra, of the film is 0.0012 and the Rz can be calculated using the Ra to Rz ration to be 0.074 (i.e. 0.012' 6.2). The film has surface uniformity, excellent running property and wear resistance (See Abstract).) The inventions of both modified Tahoda and Sakamoto are drawn to the field of polyester films and therefore it would have been obvious to one having ordinary skill in the art at the time of the invention to have modified the surface roughness of the film of modified Tahoda by including the inorganic particles as taught by Sakamoto for the purposes of imparting improved running property.

9. Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over Tahoda in view of Ueyama and further in view of Sakamoto, and further in view of Hayakawa et al. (WO 02/087853, see English Language equivalent US 2003/0165658), hereinafter "Hayakawa."

10. Regarding claim 3, Tahoda teaches an average heat-shrinkage percentage in a maximum direction of the film of from 10% to 50% when measured after having been

treated at 70°C (see Claim 1, [0007]). The measurement conditions of Tahoda are substantially similar to those of the present application and, because the range of heat shrinkage percentage is wide, absent a showing to the contrary, would result in substantially similar heat shrinkage percentage.

Tahoda teaches an average heat-shrinkage percentage in a maximum direction of the film of from 10% to 50% when measured after having been treated at 85°C (see Claim 1, [0007]). The measurement conditions of Tahoda are substantially similar to those of the present application and, because the range of heat shrinkage percentage is wide, absent a showing to the contrary, would result in substantially similar heat shrinkage percentage.

Tahoda additionally teaches a heat shrinkage percentage different that reads on from ΔX of from 10% to 20% ([0021]). The measurement conditions of Tahoda are substantially similar to those of the present application and, because the range of heat shrinkage percentage is wide, absent a showing to the contrary, would result in substantially similar heat shrinkage percentage.

Tahoda teaches that the heat-shrinkable polyester film is made by a process comprising at least two drawing stages in the maximum shrinkage direction (see, e.g., Working Example 1, teaching drawing in two stages, one extension having a drawing ratio of 4.47 and another having 1.1 [0061] – [0062]), wherein the first stage of drawing is performed at a first temperature that is from 5℃ below Tg to 15℃ above Tg ([0035] – [0036]), and at a first drawing ratio of between 4.4 and 6.0 (see [0031] and Working Example 1, [0062]). Tahoda additionally teaches that the second stage of drawing is

performed at a second temperature that is identical to or about 1 to about 5°C lower than the first temperature and at a second drawing ratio of between 1.1 and 1.5 (See, e.g., working example 1, having the same drawing temperature of 73°C for both drawing steps [0061] – [0062]).

Tahoda fails to teach that the film is heat set at according to the process as specified in the presently examined claim. However, in the same field of endeavor of heat-shrinkable films (see, *e.g*, [0003]), Ueyama teaches multi-stage stretching of a heat shrinking polyester film ([0010]). Ueyama teaches a heat-setting step performed after the first stage of drawing in a state of tension in the drawing direction at a tensioning ratio of not less than 1% and not more than 6% with respect to the film after the first stage of drawing (relaxation ratio of 5-10%, [0061]), and at a temperature that is the same as or about 1 to 5 °C lower than the temperature of the first stage of drawing (heat setting temperature of 60-80°C [0010], stretching temperature of 60-80°C [0063], therefore the heat setting temperature is to be roughly the same temperature as the stretching step) for a time reading on the range of not less than 0.5 seconds and not more than 5 seconds (from 1 to 60 seconds, col. 6 lines 15-16). It should additionally be noted that the claim language does not require that the second stage of drawing be performed after the heat-setting stage. One of ordinary skill in the art at the time of the invention would have been motivated to heat set the polyester film of Tahoda according to the steps described for the benefit of reducing the film's heat-shrinkability after biaxial stretching ([0010]).

Modified Tahoda does not disclose that film be put on a roll having a length of

1000 to 6000 m or the instant method of obtaining samples. Hayakawa et al. discloses a film roll of having a length of 1000 to 6000 m and wherein the samples are obtained in a following manner: an initiation end of winding of a film of steady region giving stable film properties in a longitudinal direction is defined as a first end, and a termination end of winding thereof is defined as a second end; a first cut-off point of the samples of the film is provided less than 2 m inside of the second end, and a final cut-off point is provided less than 2 m inside the first end; a plurality of sample cut-off points are provided at an interval of about 100 m from the first cut-off point. (See [0132], the film roll is 1000m in length which falls within the instant claimed range. Also see [0187], claim 1, the location of samples on the film roll reads on the instant limitations for sample selection. The sample locations are disclosed as being chosen to ensure consistency in the film roll through out its length [0009]-[0012].)

The inventions of both modified Tahoda and Hayakawa et al. are drawn to the field of polyester films and therefore it would have been obvious to one having ordinary skill in the art at the time of the invention to have modified the film roll length and sample locations of modified Tahoda by using the length and sample locations of Hayakawa et al. for the purposes of imparting increased property consistency through the film length.

Modified Tahoda does not disclose the instant lubricant. Sakamoto discloses a polyester film meeting the instant surface roughness and lubricant limitations. (See Table 1, C3 and C4, Example 1, the lubricant is calcium carbonate present at 0.3% (calcium carbonate being a lubricant as set forth in the instant specification on page 18).

The resulting surface roughness, Ra, of the film is 0.0012 and the Rz can be calculated using the Ra to Rz ration to be 0.074 (i.e. 0.012' 6.2). The film has surface uniformity, excellent running property and wear resistance (See Abstract).)

The inventions of both modified Tahoda and Sakamoto are drawn to the field of polyester films and therefore it would have been obvious to one having ordinary skill in the art at the time of the invention to have modified the surface roughness of the film of modified Tahoda by including the inorganic particles as taught by Sakamoto for the purposes of imparting improved running property.

11. Claims 19, 20, and 21 are rejected under 35 U.S.C. 103(a) as being unpatentable over modified Tahoda as applied to claims 1, 2, and 3, respectively, and further in view of Kishida et al. (US Patent No 5,741,601), hereinafter “Kishida.”

12. Regarding claims 19, 20, and 21, modified Tahoda fails to teach that the particles in the lubricant are silica particles. In the same field of endeavor of heat shrinkable films (col. 1 lines 20-30), Kishida teaches that silica particles are appropriate as inorganic lubricants (col. 5, lines 16-22) and have similar roughness characteristics to those discussed in Sakamoto (see Table 3). It would have been obvious to one of ordinary skill in the art at the time of the invention to include silica as a lubricant particle as it is commonly known in the art to do so in order to improve slippage of the film (col. 5 lines 16-22).

Response to Arguments

13. Applicant's arguments, see Applicant's Remarks, filed 9/22/10, with respect to the nonstatutory obviousness-type Double Patenting issues of claims 1-3 have been fully considered and are persuasive. The Double Patenting rejections of claims 1-3 has been withdrawn.

14. Applicant's arguments with respect to the 103 rejections of claims 1-3 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to ANTHONY J. FROST whose telephone number is (571)270-5618. The examiner can normally be reached on Monday - Friday; 8:00 - 4:30 est.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Angela Ortiz can be reached on (571)272-1206. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Angela Ortiz/
Supervisory Patent Examiner, Art Unit 1798

/A. J. F./
Examiner, Art Unit 1798